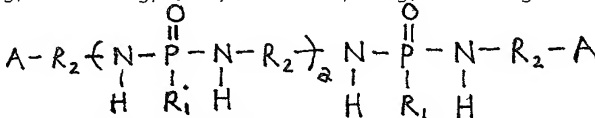


TW 401,433

AN 2002:709675 CAPLUS
 DN 137:217752
 TI Phosphorous-containing multifunctional compounds as crosslinking agent
 imparting flame retardancy
 IN Guo, Bing-Lin; Wang, Jia-Shiang; Chen, Bo-Chiuan; Hung, Kuen-Ming
 PA Taiwan
 SO Taiwan, 21 pp.
 CODEN: TWXXAS
 DT Patent
 LA Chinese
 IC ICM C08G079-02
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 42



FAN. CNT 1

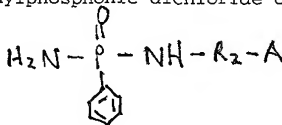
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI TW 401433	B	20000811	TW 1998-87119530	19981123
PRAI TW 1998-87119530		19981123		

AB This phosphoramidate or phosphonamidate compds.

AR2 (NHP(O)R1NHR2)aNHP(O)R1NHR2

A are prepd.; (A) = NH2, H or none (R2) = H; (R1) = OR, (Ar) = OAr, NHR, NH(CH2)nAr; R = satd. or unsatd. aliph. group; (Ar) = arom. group; (R2) = H, alkylenediamine residue, (n) = 1-30; (a) = 0-1000; X = CH2, O, SO2. These compds. can be used to prep. polyurethane or epoxy resin with good fire resistance. Reaction of POCl3 with n-BuNH2 in PhMe gave N,N',N''-tributylphosphoramidate, useful as crosslinking agent of epoxy resins.

ST phosphoramidate phosphonamidate crosslinking agent flame retardancy;
 butylamine phosphoryl chloride tributylphosphoramidate crosslinker
 IT Coating materials
 (fire-resistant; phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)
 IT Crosslinking agents
 Fire-resistant materials
 Fireproofing agents
 (phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)
 IT Epoxy resins, preparation
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)
 IT Polyurethanes, preparation
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (polyoxyalkylene-; phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)
 IT 106-92-3DP, Allyl glycidyl ether, reaction product with H siloxane 161127-41-9DP, Methylhydrogensilanediol-octamethylcyclotetrasiloxane copolymer, reaction product with allyl glycidyl ether
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)
 IT 4707-88-4P, Phenylphosphonic diamide 14360-81-7P 19622-52-7P 20638-28-2P 23344-69-6P 25190-24-3P 25190-26-5P 25279-96-3P, Hexamethylenediamine-phenylphosphonic dichloride copolymer 25279-98-5P, p-Phenylenediamine-phenylphosphonic dichloride copolymer 25949-16-0P, Ethylenediamine-phenylphosphonic dichloride copolymer, sru 28851-33-4P, Phenylphosphonic dichloride-p-diaminodiphenylmethane copolymer 28851-34-5P, Ethylenediamine-phenylphosphonic dichloride copolymer 31868-37-8P,



Phenylphosphonic dichloride-p-diaminodiphenylmethane copolymer, sru
 37624-66-1P 53721-41-8P 99190-25-7P 453537-97-8P 453557-97-6P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP
 (Preparation); USES (Uses)
 (phosphorous-contg. multifunctional compds. as crosslinking agent
 imparting flame retardancy)

IT 23344-69-6DP, reaction product with siloxane glycidyl ether
 37624-66-1DP, reaction product with siloxane glycidyl ether
 319915-23-6DP, EP 128, reaction product with phosphoramides and siloxane
 453537-98-9P 453537-99-0P 453538-00-6P
 453538-01-7P 453538-02-8P
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (phosphorous-contg. multifunctional compds. as crosslinking agent
 imparting flame retardancy)

IT 100-46-9, Benzylamine, reactions 101-77-9 107-10-8, n-Propylamine,
 reactions 107-15-3, Ethylenediamine, reactions 108-95-2, Phenol,
 reactions 109-73-9, Butylamine, reactions 124-09-4,
 Hexamethylenediamine, reactions 141-43-5, Ethanolamine, reactions
 824-72-6, Phenylphosphonic dichloride 2240-41-7, Dimethyl
phenylphosphonate 7664-41-7, Ammonia, reactions 10025-87-3,
 Phosphoryl
 chloride 20638-26-0 25265-76-3, Phenylenediamine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (phosphorous-contg. multifunctional compds. as crosslinking agent
 imparting flame retardancy)

WEST

End of Result Set



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L1: Entry 1 of 1

File: DWPI

Aug 11, 2000

DERWENT-ACC-NO: 2001-209742
DERWENT-WEEK: 200121
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TITLE: Phosphorous-containing multifunctional compounds with flame-retarding properties

INVENTOR: CHEN, B; GUO, B ; HUNG, K ; WANG, J

PATENT-ASSIGNEE:

ASSIGNEE

GUO B

CODE

GUOBI

PRIORITY-DATA: 1998TW-0119530 (November 23, 1998)

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

TW 401433 A

August 11, 2000

021

C08G079/02

APPLICATION-DATA:

PUB-NO

APPL-DATE

APPL-NO

DESCRIPTOR

TW 401433A

November 23, 1998

1998TW-0119530

INT-CL (IPC): C08 G 79/02

ABSTRACTED-PUB-NO: TW 401433A

BASIC-ABSTRACT:

NOVELTY - This invention describes the manufacture of a series of a new type of multifunctional phosphorous-containing compounds with flame-retarding properties,

DETAILED DESCRIPTION - The phosphorous-containing compounds are of formula
AR₂(NHP(O)(R₁)NHR₂)_nNHP(O)(R₁)NHR₂A.

A = -NH₂, H or no group when R₂ is H;R₁ = -OR, -Ar, -OAr, -NHR, -NH(CH₂)_nAr;

R = saturated or unsaturated aliphatic group;

Ar = aromatic group;

R₂ = H, the moiety of diamine excluding the amino group, such as: -(CH₂)_n-, cyclohexyl, phenylene, PhXPh-, and biphenyl;

n = 1-30;

No image

X = -CH₂, O, SO₂;

Ph = phenyl;

a = 0-1000.

USE - The phosphorous-containing compounds can react with isocyanate to form polyurethane or with epoxy resin to form epoxy polymers having excellent flame-retarding properties.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: PHOSPHOROUS CONTAIN MULTIFUNCTION COMPOUND FLAME RETARD PROPERTIES

DERWENT-CLASS: A21 E11

CPI-CODES: A05-A; A05-G; A09-A01; E05-G02; E05-G06;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2001-062269

中華民國專利公報 [19] [12]

[11]公告編號：401433

[44]中華民國 89年(2000)

08月11日

發明

全 2 頁

[51] Int. Cl. 06: C08G79/02

[54]名稱：防燃性含磷氮之具多官能基的化合物

[21]申請案號：087119530

[22]申請日期：中華民國 87年(1998) 11月23日

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郭炳林

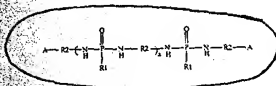
台南市大學路一號國立成功大學化工系

[74]代理人：

[57]申請專利範圍：

1.一種防燃性含磷與氮之具多官能基的化

合物，如式一所示：



(式一)

其中：

A = -NH₂, H₁ or none (當 R₂ = H)

R₁ = -OR, -Ar, -OAr, -NH-R, -

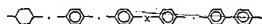
NH-(CH₂)_n-Ar

R：為飽和或不飽和之 aliphatic group

Ar：aromatic group

R₂ = H，與二胺之胺基以外之部分，如

-(CH₂)_n，



5.

n = 1 ~ 30 的任一整數

a = 0 ~ 1000

X = CH₂, O, SO₂

2.如申請專利範圍第 1 項所述之防燃性含

10. 磷之具多官能基的化合物，其中 A 是 -NH₂。

3.一種防燃性含磷之聚胺基甲酸酯，其係由申請專利範圍第 2 項所述之防燃性含磷之具多官能基的化合物與多異氰酸酯

15. 或二異氰酸酯反應。

4.一種防燃性含磷之聚胺基甲酸酯彈性體，其係由申請專利範圍第 2 項所述之防燃性含磷之具多官能基的化合物與多異氰酸酯或二異氰酸酯反應，在與多酚、

多胺或多醇反應而得。

5. 一種防燃性含磷之聚胺基甲酸酯塗料，其係於使用時由 (a)、(b) 兩液混合使用 (a) 液係由申請專利範圍第 2 項所述之防燃性含磷之具雙官能基的化合物，(b) 液包括二異氰酸酯。

6. 一種防燃性含磷之聚環氧高分子，係由申請專利範圍第 2 項所述之防燃性含磷之具多官能基的化合物與環氧樹脂反應而得，其中環氧樹脂選自雙酚 A 環氧樹脂 (bisphenol A epoxy resin)，酚醛環氧樹脂 (novel epoxy resin)，可撓性環氧樹脂 (flexible epoxy resin)，環氧

化烯烴 (epoxid olefin)，鹵化環氧樹脂 (halogenated epoxy resin) 之具多官能基的化合物與環氧樹脂反應而得。

7. 一種防燃性含磷之環氧高分子塗料，其係於使用時由 (a)、(b) 兩液混合使用，(a) 液包括包括申請專利範圍第 2 項所述之防燃性含磷之具雙官能基的化合物，(b) 液包括環氧樹脂，選自雙酚 A 環氧樹脂 (bisphenol A epoxy resin)，酚醛環氧樹脂 (novel epoxy resin)，可撓性環氧樹脂 (flexible epoxy resin)，環氧化烯烴 (epoxid olefin)，鹵化環氧樹脂 (halogenated epoxy resin)。
- 10.